News from Ed Markey

United States Congress **Massachusetts Seventh District**

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Markey, Thompson Release Scientific Assessment of Nuke Detection Equipment Used at U.S. Ports:

Portal Monitors Unlikely to Detect Highly Enriched Uranium – Nuclear Materials Must be Secured Before Reaching U.S. Shores

Washington, D.C.: Representative Edward Markey (D-MA), a senior Member of the Committee on Homeland Security, and Rep. Bennie G. Thompson (D-MS), the top-ranking Democrat on the Committee on Homeland Security, today released an independent scientific analysis conducted by experts consulted by the Center for Science, Technology and Security Policy at the American Association for the Advancement of Science (AAAS) indicating that the radiation portal monitors being deployed at ports by the Department of Homeland Security (DHS) will likely be unable to detect kilogram quantities of highly enriched uranium (HEU), the radioactive material that could be used most easily by terrorists to construct a homemade nuclear weapon capable of killing tens of thousands of Americans. The Congressmen's request was motivated by reports that ABC News was able to transport a shipment of depleted uranium (whose radioactive properties are similar to HEU's) undetected through the Port of Los Angeles on September 2, 2003, and subsequent assurances by DHS that its technology was sufficient to detect such shipments in the future.

"This report reveals what we have suspected to be true the system in place for detecting nuclear materials at our ports will not effectively detect highly enriched uranium HEU from being smuggled into the United States. The Bush Administration finally needs to confront the reality that the laws of physics are working against them in their quest to stop highly enriched uranium at our borders," said Rep. Markey. "While there are some short-term engineering fixes and some longer-term R&D that can help make these detection systems better the reality is that the only sure-fire way to prevent a terrorist from smuggling nuclear weapons-grade HEU into this country is to spend more time and money securing it before it reaches our shores."

At some point, the Administration needs to combine better processes with better technology," added Rep. Thompson. "It doesn't make sense that the Department of Homeland Security plans to start using advanced radiation portal monitors next year to improve detection of radiological material that slips through because it isn't stopped overseas. Meanwhile, the Department of Energy plans to continue using the same monitors that are currently being used—ineffectively--at our borders as well as foreign seaports. The country needs to find better technology and combine it with a process that works."

Although the radiation portal monitors used in U.S. ports can detect plutonium and other radioactive materials that could be used to make a dirty bomb, the Department , both in its Congressional correspondence and in press releases and Congressional hearings, has not been willing to concede the failures of the technology to detect highly enriched uranium. For example, after ABC News smuggled depleted uranium into the U.S., Rep. Markey sent a letter to DHS that questioned the Department's technical capabilities to detect the importation of these dangerous,

weapons-usable materials (see **http://www.house.gov/markey/Issues/iss_nuclear_ltr030912.pdf**). The Department's response to Rep. Markey's September letter claimed that its technology *could* detect HEU (see **http://www.house.gov/markey/Issues/iss_nuclear_resp030924.pdf**). On June 3, 2005, DHS issued a press release whose headline read "Nation's busiest seaports to have complete radiation detection coverage by end of 2005."

To resolve the discrepancy between statements made by DHS officials and those made by numerous other technical experts, including the Natural Resources Defense Council (which issued a report indicating that the portal monitors would not be able to detect kilogram quantities of HEU), Reps. Markey and Thompson requested the review by AAAS, an international non-profit organization serving10 million scientists and engineers. The AAAS response to the Congressmen indicates:

- A several kilogram cylinder of uranium metal, shielded by a few millimeters of lead and steel and placed in a shipping container, is likely to escape detection by portal monitors using current detectors, algorithms, and operational procedures.
- The portal detectors in use are limited in several ways. The most important limitation is their very poor energy resolution, which severely limits their ability to identify radioactive sources and thereby distinguish between potentially hazardous sources and naturally occurring radioactive materials.
- Because of the challenges of reliably detecting HEU, the very highest priority should be assigned to safeguarding all stocks of HEU, at home as well as abroad.
- Existing portal detection systems could be made somewhat more effective by making the portal as narrow as possible and increasing the counting time (e.g., by reducing vehicle speed) to the maximum practical extent. Additional shielding around the detectors would decrease background radiation and thereby increase the effectiveness of the scanners.

The nonprofit American Association for the Advancement of Science (AAAS) is the world's largest general scientific society, and publisher of the journal, Science (www.sciencemag.org). AAAS was founded in 1848 and includes some 262 affiliated societies and academies of science, serving 10 million individuals. The AAAS Center for Science, Technology and Security Policy, directed by Dr. Norman Neureiter and supported by the MacArthur Foundation, seeks to provide authoritative, nonpartisan scientific information to guide policymaking decisions.

The Congressmen's request to AAAS as well as the AAAS response can be found at www.house.gov/markey.

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